

athletic equipment may recognize the structures, mechanisms, and materials used in these embodiments of the invention. There are many other variations and modifications that will become apparent. The present invention is not to be limited by the specific disclosure herein, but by the proper scope and fair meaning of the accompanying claims.

Claims

[c1]

A Pointe shoe for a dancer's foot to provide support and freedom of movement on the dance floor comprising:

a rigid mid-foot element having support surfaces for; the plantar of the heel bone, for the top of the mid foot bones, and for the top of the metatarsal bones, said mid-foot segment including means to secure it to the foot;

a rigid toe loop having one end mounted to the mid-foot element for transferring the downward force on the mid-foot segment to the dance floor and having a second end in contact with the dance floor in a Pointe position; and

a transverse joint mounting the rigid mid-foot segment to the rigid toe loop in both sides of the foot forming a single structural unit said joining being located at the base of the toes to permit flexing thereof and wherein said structural unite transfers the weight of the dancer to the front end of the shoe, and then to the floor with the foot in Pointe position.

[c2]

A Pointe shoe comprising:

a rigid conical form with a large opening at one end near the back of the arch, and a smaller opening at the other end just behind the ball of the foot for putting on and taking off said shoe, said conical form supporting the weight of the dancer with the foot in Pointe position;

a toe box mounted to the conical form for supporting the downward force applied to said conical form with the foot in Pointe position; and

a transverse rotational mounting means joining the conical form to the toe box located near the ball of the foot and permitting the toe bones to flex relative to the metatarsal bones, said mounting means including means to maintain a ventricle position with the

foot in Pointe position, wherein the Pointe shoe supports the weight of the dancer on the mid-foot bones, the metatarsal, and heel bone, and said downward weight force is transferred to the dance floor.

[c3]

A Pointe shoe comprising:

a mid-foot element comprising a semi-rigid short shank from behind the front end of the metatarsal to a plantar surface at the front of the heel bone, said shank being thin from inner to outer surface and having a shape of approximating arch of the foot, said shank further including a support surface for the plantar of the heel bone and the plantar muscle; and a large rigid tongue with a support surface for the top of the mid-foot bones and the top of the metatarsal, said tongue being mounted to the shank; and wherein

said mid-foot element includes a back end and a front end said back end having a larger opening at the back end than at the front end for ingress and egress of the foot into and out of the shoe;

means for securing the mid-foot element transversely with respect to the mid-foot bones and the front of the metatarsal bones, and,

a rigid fore foot element rotationally mounted to the mid-foot element to transmit forces from the mid-foot element to the floor.

[c4]

A Pointe shoe in accordance with Claim 2 wherein:

the toe box comprises a rigid structure having a flat front surface to facilitate balancing on Pointe and having sides extending therefrom.

[c5]

A Pointe shoe in accordance with Claim 2 wherein:

the toe box includes a U-shaped toe loop extending along opposite sides thereof, an impact absorbing front surface and an inner liner extending along the sides.

[c6]

A Pointe shoe in accordance with Claim 2 wherein:

the toe box includes a laces or straps to secure the box to the toes.

[c7]

A Pointe shoe in accordance with Claim 1 wherein:

the mid-foot element comprises a short shank extending from behind the ball of the foot to the beginning of the heel bone and from one side of the foot to the other, said element being shaped to support the weight of the dancer.

[c8]

A Pointe shoe in accordance with Claim 7 further including:

a semi-rigid plate having a support surface on the arch for the plantar and mid-foot bones.

[c9]

A Pointe shoe in accordance with Claim 7 wherein:

the mid-foot element comprises rigid side portions joined by a right top tongue, said element extending from the ball of the foot to the back of the mid-foot bones on both sides and a rigid plate connected thereto forming a support surface for the of the top mid-foot bones and metatarsal bones and further including straps and a buckle to secure the shoe to the foot.

[c10]

A Pointe shoe in accordance with Claim 9 further including:

a transverse rotational joint that attaches the mid-foot elements to the front foot elements, said joint being self-locking and releasing by applying force and releasing by applying force and removing force to the front of the toe box.

[c11]

A Pointe shoe in accordance with Claim 1 further including:

a self locking and releasing and pin located on a plate mounting the mid-foot element to the toe loop.

[c12]

A Pointe shoe in accordance with Claim 1 wherein:

the joint permits fully flexing of the toes down (tendu) to toes up (demi-point), said joint being lockable in the ventricle position to transfer the weight of the dancer through the mid-foot element to the toe box and then the dance floor.